C3 Sub D1

9. (Amended) A method of detecting the presence of a selected cellular protein on the surface of a cell comprising contacting the cell with a detectable virus expressing on its surface a ligand previously demonstrated to specifically bind the selected cellular protein and detecting binding of the virus to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell.

C4 Sub D2

17. (Amended) A method of detecting the presence of a selected polypeptide in a sample comprising contacting the sample with a detectable bacteriophage expressing on its surface at least 10 copies of a ligand for the selected polypeptide and detecting binding of the bacteriophage to the sample, thus detecting the presence of the selected polypeptide in the sample.

C5 Sub D1

22. (Amended) A method of detecting the presence of a selected cellular protein on the surface of a cell comprising contacting the cell with a detectable bacteriophage expressing on its surface a at least 10 copies of a ligand for the selected cellular protein and detecting binding of the bacteriophage to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell.

C6

46. (Amended) The method of claim 1 wherein the polypeptide is a cellular protein.

C7

49. (Amended) The method of claim 5 wherein the polypeptide is a cellular protein.

C8

60. (Amended) The method of claim 17 wherein the polypeptide is a cellular protein.

**Remarks**

Claims 1, 5, 9, 17 and 22 are amended to correct grammatical errors. Claims 46, 49 and 60 are amended to recite "polypeptide" instead of "protein," thus perfecting antecedent basis. These are simply clarifying amendments. These amendments add no new matter and do not alter the scope of the claims.

## RESPONSE TO RESTRICTION REQUIREMENT

The Office Action requires election of a single species for each of the following: a) cells *in vivo* or in culture, b) a tag or label associated with the virus, c) a cellular receptor protein or a cellular channel protein, and d) sequence of ligand. Applicants elect cells *in vivo*, fluorescent protein, cellular receptor protein, and Mag-4.1 as the ligand amino acid sequence, respectively. The following table identifies the claims that read on the elected species.

| Claim | | *In vivo* | Fluorescent protein | Cellular receptor protein | Mag-4.1 (SEQ ID NO:2) |
|---|---|---|---|---|---|
| 1 | A method of detecting the presence of a **polypeptide** in a **sample** comprising contacting the sample with a **detectable virus** expressing on its surface a **ligand** for the polypeptide and detecting binding of the virus to the sample, thus detecting the presence of the polypeptide in the sample. | | X | X | X |
| 5 | A method of detecting the presence of a selected **polypeptide** in a **sample** comprising contacting the sample with a **detectable virus** expressing on its surface a **ligand** previously demonstrated to specifically bind the selected polypeptide and detecting binding of the virus to the sample, thus detecting the presence of the selected polypeptide in the sample. | | X | X | X |
| 9 | A method of detecting the presence of a selected **cellular protein** on the surface of a cell comprising contacting the cell with a **detectable virus** expressing on its surface a **ligand** previously demonstrated to specifically bind the selected cellular protein and detecting binding of the virus to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell. | X | X | X | X |
| 17 | A method of detecting the presence of a selected **polypeptide** in a **sample** comprising contacting the sample with a **detectable bacteriophage** expressing on its surface at least 10 copies of a **ligand** for the selected polypeptide and detecting binding of the bacteriophage to the sample, thus detecting | | X | X | X |

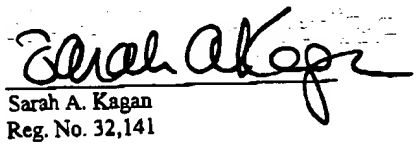
| | | | | | |
|---|---|---|---|---|---|
| | the presence of the selected polypeptide in the sample. | | | | |
| 22 | A method of detecting the presence of a selected **cellular protein** on the surface of a cell comprising contacting the cell with a **detectable bacteriophage** expressing on its surface a at least 10 copies of a **ligand** for the selected cellular protein and detecting binding of the bacteriophage to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell. | X | X | X | X |
| 45 | The method of claim 1, wherein the virus is a **bacteriophage.** | | X | X | X |
| 46 | The method of claim 1, wherein the polypeptide is a **cellular protein.** | | X | X | X |
| 47 | The method of claim 1, wherein the sample is a clinical sample. | | X | X | X |
| 48 | The method of claim 5, wherein the virus is a **bacteriophage.** | | X | X | X |
| 49 | The method of claim 5, wherein the polypeptide is a **cellular protein** | | X | X | X |
| 50 | The method of claim 5, wherein the sample is a clinical sample. | | X | X | X |
| 51 | The method of claim 9, wherein the virus is a **bacteriophage.** | X | X | X | X |
| 53 | The method of claim 9, wherein the **cellular protein is a receptor or channel protein.** | X | X | X | X |
| 54 | The method of claim 9, wherein the cellular protein is **N-methyl D-aspartate receptor.** | X | X | X | X |
| 55 | The method of claim 9, wherein the cells are in **culture.** | | X | X | X |
| 56 | The method of claim 9, wherein the cells are ***in vivo.*** | X | X | X | X |
| 57 | The method of claim 9, wherein the **ligand** expressed on the surface of the virus is selected from the group consisting of the peptide whose amino acid sequence is set forth as **SEQ ID NO:2** and the peptide whose amino acid sequence is set forth as SEQ ID NO:3. | X | X | X | X |
| 58 | The method of claim 17, wherein the bacteriophage expresses on its surface at least 100 copies of the **ligand.** | | X | X | X |
| 59 | The method of claim 17, wherein the bacteriophage expresses on its surface at least 400 copies of the **ligand.** | | X | X | X |
| 60 | The method of claim 17, wherein the **polypeptide is a cellular protein.** | | X | X | X |
| 61 | The method of claim 17, wherein the sample is a clinical sample. | | X | X | X |

| | | | | | |
|---|---|---|---|---|---|
| 62 | The method of claim 22, wherein the bacteriophage expresses on its surface at least 100 copies of the **ligand**. | X | X | X | X |
| 63 | The method of claim 22, wherein the bacteriophage expresses on its surface at least 400 copies of the **ligand**. | X | X | X | X |
| 65 | The method of claim 22, wherein the **cellular protein is a receptor or channel protein**. | X | X | X | X |
| 66 | The method of claim 22, wherein the **cellular protein is N-methyl D-aspartate receptor**. | X | X | X | X |
| 67 | The method of claim 22, wherein the cells are in **culture** | | X | X | X |
| 68 | The method of claim 22, wherein the cells are ***in vivo***. | X | X | X | X |
| 69 | The method of claim 22, wherein the **ligand** expressed on the surface of the virus is selected from the group consisting of the peptide whose amino acid sequence is set forth as **SEQ ID NO:2** and the peptide whose amino acid sequence is set forth as SEQ ID NO:3. | X | X | X | X |

As shown in the table above, claims 9, 22, 51, 53-54, 56-57, 62-63, 65-66 and 68-69 read on *in vivo* embodiments. All pending claims, claims 1, 5, 9, 17, 22, 45-51, 53-63 and 65-69, read on a fluorescent protein associated with a virus to render the virus detectable. All pending claims read on a cellular protein receptor. All pending claims read on the Mag-4.1 amino acid sequence used as a ligand. Claims 9, 22, 51, 53-54, 56-57, 62-63 and 65-69 read on all four elected species.

Respectfully submitted,

Date: July 31, 2002

By: 
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Appendix 1. Version of the amended claim and paragraph, with markings to show changes made.

1. (Amended) A method of detecting the presence of a polypeptide in a sample comprising contacting [with] the sample with a detectable virus expressing on its surface a ligand for the polypeptide and detecting binding of the virus to the sample, thus detecting the presence of the polypeptide in the sample.

5. (Amended) A method of detecting the presence of a selected polypeptide in a sample comprising [with] contacting the sample with a detectable virus expressing on its surface a ligand previously demonstrated to specifically bind the selected polypeptide and detecting binding of the virus to the sample, thus detecting the presence of the selected polypeptide in the sample.

9. (Amended) A method of detecting the presence of a selected cellular protein on the surface of a cell comprising contacting [with] the cell with a detectable virus expressing on its surface a ligand previously demonstrated to specifically bind the selected cellular protein and detecting binding of the virus to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell.

17. (Amended) A method of detecting the presence of a selected polypeptide in a sample comprising contacting [with] the sample with a detectable bacteriophage expressing on its surface at least 10 copies of a ligand for the selected polypeptide and detecting binding of the bacteriophage to the sample, thus detecting the presence of the selected polypeptide in the sample.

22. (Amended) A method of detecting the presence of a selected cellular protein on the surface of a cell comprising contacting [with] the cell with a detectable bacteriophage expressing on its surface a at least 10 copies of a ligand for the selected cellular protein and detecting binding of the bacteriophage to the cell, thus detecting the presence of the selected cellular protein on the surface of the cell.

46. (Amended) The method of claim 1 wherein the [protein] polypeptide is a cellular protein.

49. (Amended) The method of claim 5 wherein the [protein] polypeptide is a cellular protein.

60. (Amended) The method of claim 17 wherein the [protein] polypeptide is a cellular protein.